

Exhibit 10
Field Change Request (FCR) Form

Project Name: Diamond Head Oil Superfund Site **Request Number:** FCR-1

Field Change Request Title: Modification to SOP 18 LNAPL Shake Sudan Test

To: Grisell Diaz Cotto / EPA Region 2

Date: May 16, 2003

Description: The Shake and Sudan Test were performed on the samples obtained from the first three borings at the site on May 13, 2003. The following two observations were made: the soil requires 24 hours to settle rather than the 30 minutes allowed for settling in the SOP and although there was a visible sheen and oil odor smell, the bright red coloration of the Sudan dye was not observed in the test jars.

The following tests were performed to verify the efficacy of the procedure: 1) Sudan dye was added to a jar with water (as expected, the clumps of dye floated on top of the water and did not dissolve); 2) Sudan dye was added to a jar with water and gasoline (the dye was observed to dissolve in the gasoline and the color became bright red); 3) Sudan dye was added to a jar with water and oil from the onsite generator (the red color was difficult to observe because of the darkness of the oil although some leaching of the red color was observed from the particles of dye); 4) Sudan dye was added to a jar containing a sample of the LNAPL found in well MW-3 (the red color was even more difficult to observe than in test 3 above because of the dark color of the LNAPL although some leaching of the red color was observed from the particles of dye); 5) The soil that had settled in the jars known to contain LNAPL either by the presence of a sheen or an oil smell, was put in a ziplock bag and smeared in the bag (after repeated smearing, red color could be distinguished on the bag separate from the brown color of the oil and soil); 6) The Sudan dye was added to a ziplock bag and smeared (the red color was observed on the plastic bag).

Reason for Change: A change in the procedure is needed because of the following: the dark color of the LNAPL masks the bright red color of the Sudan dye and the Sudan dye appears to be less soluble in the heavier oils than in the lighter gasoline. Smearing does not appear to help in dissolving the dye and observing the presence of LNAPL.

Recommended Disposition: The following modification to the SOP is made:

All samples will undergo the Shake Test and visual (oil sheen) and smell observations of the presence of LNAPL will be recorded. Samples will be allowed to settle for 24 hours.

In samples, where LNAPL cannot be observed or that are borderline, the Sudan dye will be added per the original SOP.

After allowing time for the dye to react, observations will be made.

Five samples with obvious LNAPL (sheen or smell) will also be tested by the above method to confirm its efficacy.



Field Team Leader (or designee): **Andy Judd and Juliana Hess** **May 16, 2003**
Signature Date

Disposition:

Project Manager: **Juliana Hess** **May 16, 2003**
Signature Date

Approval EPA Project Manager:

 **5/21/03**
Signature Date

Distribution: EPA Project Manager
Project QA Officer
CH2M HILL Project Manager
RI Lead
Field Operations Lead